

Fibulin-5 siRNA (r): sc-270234

BACKGROUND

Fibulin proteins contribute to normal development of elastic fiber systems in various types of organs that require elasticity, such as vasculature, lung and skin. Fibulin-5 (EVEC, UP50, DANCE) is an integrin-binding extracellular matrix protein that mediates endothelial cell adhesion. Fibulin-5 is also a calcium-dependent elastin-binding protein that scaffolds cells to elastic fibers, thereby preventing elastinopathy in the skin, lung, and vasculature. The Arg-Gly-Asp (RGD) motif in Fibulin-5 interacts with cell surface integrins $\alpha_v\beta_3$, $\alpha_v\beta_5$ and $\alpha_9\beta_1$, serves as an anchorage for elastic fibers to cells, and promotes organization of elastic fibers. The human Fibulin-5 gene maps to chromosome 14q32.12 and encodes a 488 amino acid protein.

REFERENCES

1. Kowal, R.C., et al. 1999. Assignment of Fibulin-5 (FBLN5) to human chromosome 14q31 by *in situ* hybridization and radiation hybrid mapping. *Cytogenet. Cell Genet.* 87: 2-3.
2. Yanagisawa, H., et al. 2002. Fibulin-5 is an elastin-binding protein essential for elastic fibre development *in vivo*. *Nature* 415: 168-171.
3. Midwood, K.S., et al. 2002. Elastic fibers: building bridges between cells and their matrix. *Curr. Biol.* 12: R279-281.
4. Nakamura, T., et al. 2002. Fibulin-5/DANCE is essential for elastogenesis *in vivo*. *Nature* 415: 171-175.
5. Schiemann, W.P., et al. 2002. Context-specific effects of Fibulin-5 (DANCE/EVEC) on cell proliferation, motility, and invasion. Fibulin-5 is induced by transforming growth factor- β and affects protein kinase cascades. *J. Biol. Chem.* 277: 27367-27377.
6. Loeys, B., et al. 2002. Homozygosity for a missense mutation in Fibulin-5 (FBLN5) results in a severe form of cutis laxa. *Hum. Mol. Genet.* 11: 2113-2118.
7. Online Mendelian Inheritance in Man, OMIM[™]. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 604580. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
8. LocusLink Report (LocusID: 10516). <http://www.ncbi.nlm.nih.gov/LocusLink/>

CHROMOSOMAL LOCATION

Genetic locus: Fbln5 (rat) mapping to 6q32.

PRODUCT

Fibulin-5 siRNA (r) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Fibulin-5 shRNA Plasmid (r): sc-270234-SH and Fibulin-5 shRNA (r) Lentiviral Particles: sc-270234-V as alternate gene silencing products.

For independent verification of Fibulin-5 (r) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-270234A, sc-270234B and sc-270234C.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNases and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Fibulin-5 siRNA (r) is recommended for the inhibition of Fibulin-5 expression in rat cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 μ M in 66 μ l. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Fibulin-5 gene expression knockdown using RT-PCR Primer: Fibulin-5 (r)-PR: sc-270234-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.